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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/663,146

09/16/2003

Keiichi Satou

36125

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116 7590 03/04/2005

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EXAMINER

MAI, ANH T

ART UNIT

PAPER NUMBER

2832

DATE MAILED: 03/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/663,146

Applicant(s)

SATOU ET AL.

Examiner

Anh T. Mai

Art Unit

2832

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_\_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/15/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1-4 are rejected under 35 U.S.C. 102(a) as being anticipated by Takashige et al. [US 6297593].

Takashige discloses a boosting transformer having two U-shaped cores 24 comprising outer section, middle section and inner section, the cores opposed to each other with a gap 22 interposed therebetween [figure 2]; a primary winding 20 and secondary winding 21 arranged to surround middle cores, the sectional area of the middle core is increased and the number of primary winding in the radial direction of the primary winding to be wound around the middle core is increased and number of winding in axial direction is decreased ; number of secondary winding in the radial direction wound around the middle core is increased and number of secondary winding in axial direction is decreased [see figure 2]; the primary and secondary winding are positioned close to insulator 25, and sectional area of the outer core is smaller than that of the middle core.

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With respect to claim 2, figure 19, prior art disclosed by reference Takashige shows the sectional area of outer core is smaller than half of the sectional area in the middle core.

With respect to claims 3-4, Takashige has two identical U-shaped cores [figure 2].

*Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takashige et al. in view of Miyazaki et al. [US 6587023].

Takashige discloses the claimed invention as claimed as cited above except for each of sectional shapes of middle and outer core sections is an oval including a circle or polygon. Miyazaki discloses core legs 24T of core pieces 23T are circular shaped [figures 6B-C]. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have circular cross sectional core as taught by Miyazaki to Takashige. The motivation would have been to facilitate the winding wound around the core. Therefore, it would have been obvious to combine Miyazaki with Takashige.

*Allowable Subject Matter*

5. Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 6 recites inter alia, *the values of  $h1$ ,  $D1$ ,  $h2$ ,  $D2$  are set in such manner that the following formulae can be established:  $h2 < D1$ ,  $h2 < h1$ ,  $D2 < D1$ , or  $D2 < h1$ .*

The references of record do not teach or suggest the aforementioned limitation, nor would it be obvious to modify those references to include such limitation.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh T. Mai whose telephone number is 571-272-1995. The examiner can normally be reached on 5/4/9 Schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on 571-272-1990. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

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Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AM

A handwritten signature in black ink, appearing to read 'Anh Mai', with a long, sweeping horizontal stroke extending to the right.

**ANH MAI**  
**PRIMARY EXAMINER**